SOIL conservation

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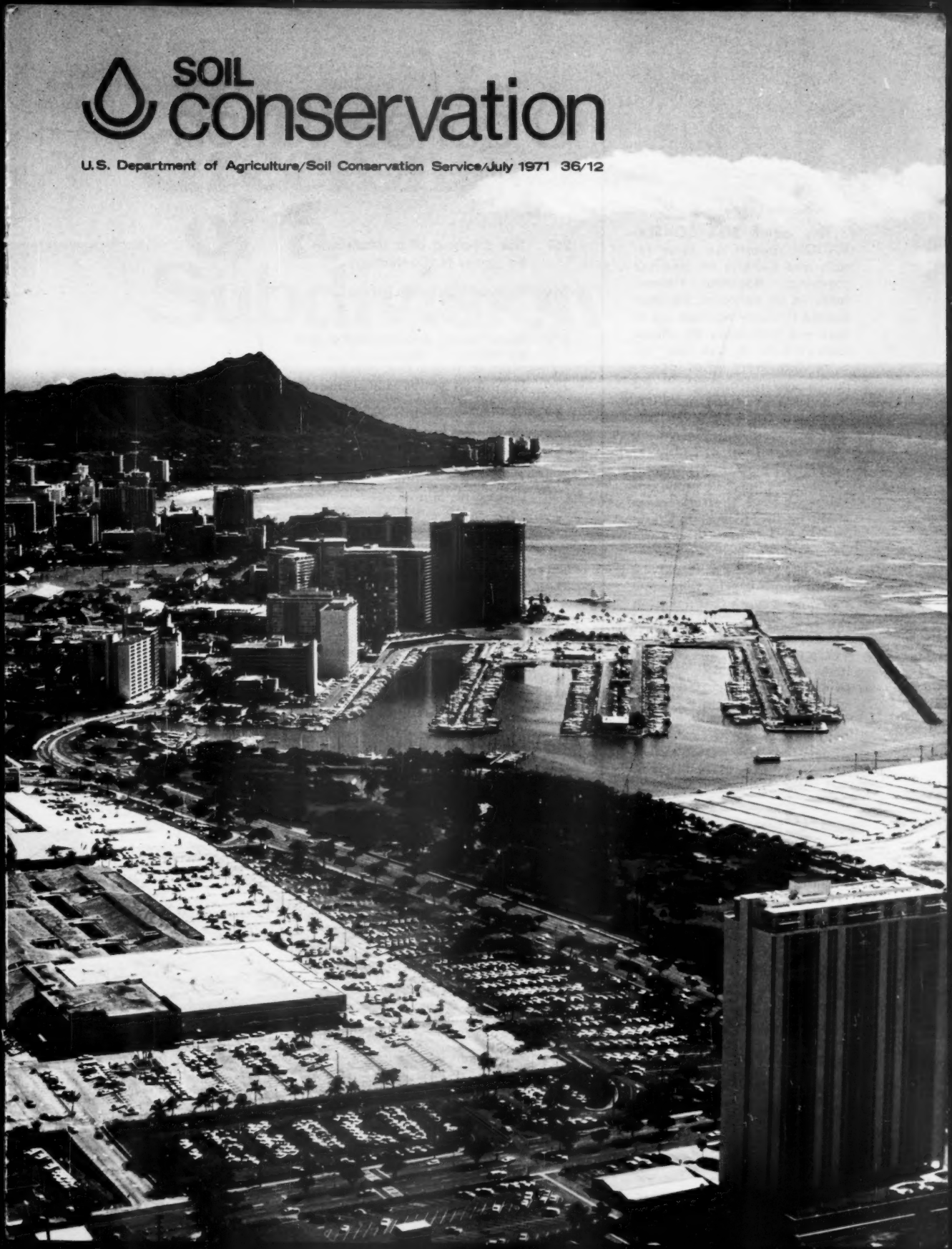

SOIL CONSERVATION

July 1971, Vol. 36, No. 12

This month SOIL CONSERVATION reports on some results and benefits of land use planning. Beautiful Hawaii, featured on our cover, has pioneered in many approaches to land use planning. Its unique statewide Land Use Law requires that every bit of land—public and private, good and bad, hillside and shoreline, farm and city—be given one of four classifications: urban, rural, agricultural, or conservation. The object of the law is twofold: to preserve prime agricultural land that otherwise might be lost forever to urban encroachment and to provide an adequate land reserve for economic growth.

The lead article tells how planning and conservation practices helped preserve the natural setting at a housing development in West Virginia. Iowa's pace-setting erosion-control law is discussed in an article by Iowa's state conservationist, Wilson Moon. And the centerspread has an article about sanitary landfills in Ohio.

COVER: Shopping centers and high-rise hotels have changed downtown Honolulu. Diamond Head, in the background, is an unchanging sentinel over Waikiki. (Photograph courtesy of Hawaii's Department of Planning and Economic Development.)

267 The greening of a subdivision
by James H. Canterberry

269 Eufaula, city with a past
by C. F. Lyle

272 Iowa passes erosion-control law
by Wilson T. Moon

274 Plantation profits from conservation planning
by Gene Warren, Jr.

276 A sanitary landfill can be a good neighbor
by Marvin F. Bureau

278 Taming a mountain
by Charles Slaton

280 Fairground bids farewell to erosion
by Karl H. Reinhardt and Neal C. Beery

281 Grass rescues rail research
by Roy J. Larsen

282 BLM and SCS continue interagency planning

282 Soil maps lead to right decisions
by Charles Davies and Harry Fukaye

283 SCS serves faraway places
by Carolyn Johnston

284 Review

286 Meetings

287 Recon

288 From the Administrator
"Doing our thing" in the planning process

Prepared in the Division of Information, Soil Conservation Service, U.S. Department of Agriculture, Washington, D.C. 20250

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The Greening of a Subdivision

by James H. Canterberry
District conservationist, SCS
Charleston W. Va.

Thousand Oaks is no ordinary housing development. Attention to little things often overlooked—grass, trees, the control of runoff—makes it more pleasant than most.

This subdivision nestles among the hills of South Charleston, W. Va., one of the world's chemical centers. Residents of Thousand Oaks can live in harmony with their natural surroundings.

Z. G. Huffman and Sherman Huffman started this development in 1960 with 18 acres of land. Today they have 86 acres and have built 100 of the planned 300 houses.

The Huffman brothers recognized that their land had severe limitations for the intended use. The steeply sloping land receives an annual rainfall of 45 inches creating a potential for severe erosion.

The banks of newly graded streets presented one of the first erosion problems. The Huffmans went to the Capitol Soil Conservation District for help. E. T. Estlack, then the Soil Conservation Service's district conservationist helped revegetate the banks. He recommended a seed mixture of crownvetch and tall fescue with fertilizer and straw for mulch.

The Huffmans decided to grow their own crownvetch because sources were scarce. They sowed $600 worth of seed on their farm, and today they can use either crowns or seed. Planting of crowns speeds the establishment of cover.

Roadbanks now have a good stand of vegetation almost by the time the concrete pavements are poured.

The Huffmans are experienced builders with an appreciation for nature, but they also know the importance of trees in controlling erosion. Consequently, they disturb trees and other native vegetation only where necessary when excavating for foundations.

"Why destroy trees?" asks Z. G. Huffman. "They are so valuable to a housing development, and it took nature 50 years to grow them."

The Huffmans also reduced erosion and prevented land slips by fitting the house design and landscaping to the terrain, thus disturbing less soil.

The Huffmans use channel-tile drainageways to cope with runoff. Tile is laid across the slope behind the house to intercept runoff. From there the water flows to another drainageway that carries it safely down the slope to a street or storm sewer.

The developers also install foundation drains to carry off underground water.

Homeowners in Thousand Oaks are encouraged to maintain the runoff-control practices and dense stands of sod. The Huffmans give each owner all the crownvetch seed and crowns he can use.

Residents of Thousand Oaks are aware of and grateful for the attention given to preserving nature.

Mr. and Mrs. Matt Matson be-

lieve that the subdivision offers what most modern developments don't. "Thousand Oaks is a little bit of country right in town," Mrs. Matson said. "Here my children have what my husband and I cannot buy them—a close association with nature and its wonders."

Mr. and Mrs. Philip Angel, Jr., selected Thousand Oaks because the natural setting had been preserved. "Our home would be just a nice box anywhere else," they claim.

Lessons learned at Thousand Oaks have benefited the community and the state. As a member of the South Charleston Planning Commission, Zack Huffman spearheaded the effort to get erosion- and sediment-control standards in the city's zoning ordinance and subdivision regulations. South Charleston was the first municipality in West Virginia to have erosion- and sediment-control regulations.

Huffman was instrumental in the planning commission's signing of a memorandum of understanding with the Capitol Soil Conservation District. The memorandum, an agreement to work together to conserve and develop natural resources, was the first of its kind in West Virginia between a city planning commission and a soil conservation district.

"The best investments I make in my housing developments are those for erosion control," Huffman said. "Green grass and attractive surroundings are my best salesmen." ♦

(Top) Developer Z. G. Huffman seeds all roadbank cut-and-fill slopes and other bare areas with a mixture of crownvetch and Kentucky 31 fescue to reduce erosion and to make his subdivision more attractive. (Bottom) Huffman, on the right, and SCS soil scientist Dale Childs examine a channel-tile drainageway that carries surface water to the street.

Eufaula, city with a past

by C. F. Lyle
Project coordinator, SCS
Ozark, Ala.

Eufaula is a historic city that appreciates the past but is building for the future. This old river city in Barbour County, Alabama, has a beautiful 45,000-acre lake that serves as the catalyst for new developments.

The lake is behind a huge dam on the Chattahoochee River. It is known as Lake Eufaula in Alabama and Lake Chattahoochee in Georgia.

Like many other cities in the old South, Eufaula was a bustling river town in the "plantation era." When the agricultural economy changed, so did Eufaula. Business declined, and people moved away.

But today, Eufaula is a thriving city of 11,000 people. Its appearance and the attitude of the townspeople have brought in more than 30 manufacturers which employ about 3,000 workers. Two mining companies—bauxite and brown iron ore are both abundant in the area —employ about 200 people and add more than $1 million every year to the economy of the Eufaula area.

Because of the new industries and an almost unlimited potential for recreation developments, young former residents have begun to return to Eufaula.

When the U.S. Army Corps of Engineers moved into town and began planning the giant reservoir that would make Eufaula a seaport town, a few enterprising individuals saw an opportunity for the town to grow and develop. Where cotton had been king, they saw recreation and industry as masters of the economy.

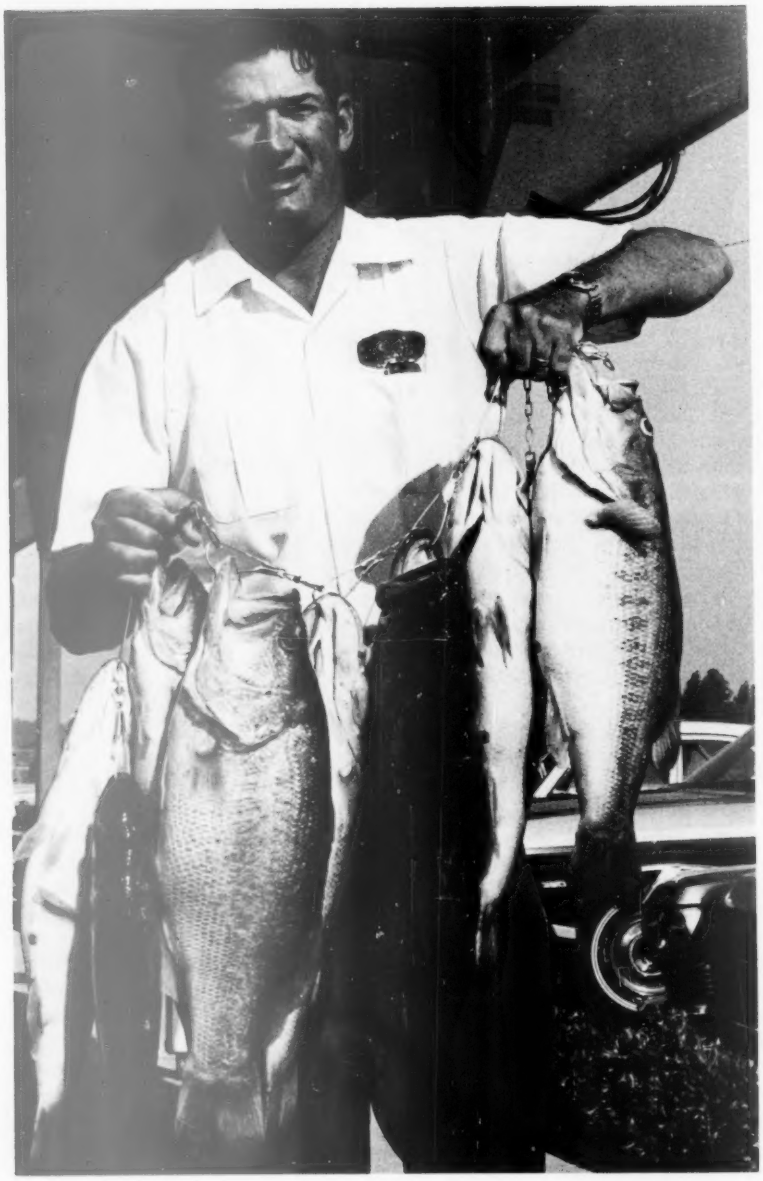
The Soil Conservation Service, in cooperation with other USDA agencies in the county and the Barbour County Soil and Water Conservation District, appraised Barbour County's recreation potential. Eufaula and the Barbour County area were shown to have excellent potential for several types of recreation enterprises. Of 11 types of recreation appraised, five were rated "high potential." Also, the appraisal listed 13 natural scenic and historic areas and identified 11 sites where lakes could be built ranging in size from 300 to 5,000 acres.

When the Wiregrass Resource Conservation and Development Project began operations in 1967, Eufaula asked for help in developing a major recreation complex on Lake Eufaula. The project sponsors endorsed the application and assisted in locating technical and financial help. Today, a major regional state park is under construction on Lake Eufaula, just 5 miles north of town. It will be known as the Albert P. Brewer Lake Point Resort and is one of only four such parks planned for the state. The master plan for the park includes an 18-hole championship golf course, a marina, beach, lodge, cabins, nature trails, and camping and picnicking areas. The park is estimated to cost more than $8 million; it will be financed by state and federal funds. SCS provided soils information for the park site.

The Barbour County area already boasts of a wide array of recreation activity, including all forms of water sports. The fisherman can find some of the best bass and crappie fishing in the South. Fishing is also good for bluegill, shellcracker, and catfish.

Three major events highlight activities on Lake Eufaula every year. In May there is the Alabama Fresh Water Fishing Rodeo—it takes at least an 8 pounder to place. In July, Tom Mann, Eufaula's own professional bass fisherman, serves as one of the hosts for the Lake Eufaula National Bass Tourney. Not only is Mann a nationally recognized fisherman, but he is also a nationally recognized manufacturer of artificial fishing lures. And, there is the Lake Eufaula Festival in August, which features international boat races, a sidewalk art show, square dancing, and a beauty pageant. Last year the festival drew more than 50,000 visitors from 22 states. Thousands of dollars in prizes are up for grabs each year during the Lake Eufaula activities.

For the heritage-conscious, the



annual antebellum house tour and antique show in April is a highlight. Held amid the beautiful dogwoods and azaleas that line the city's broad streets, this event attracts thousands of visitors from throughout the United States and foreign countries.

The house tour developed somewhat by accident. In 1965, Eufaulians became concerned about the many historic old landmarks that were being destroyed to make way for new buildings. When their most impressive residential showplace went on the auction block, they decided it was time for action. Interested citizens bought the old house, known locally as the Shorter Mansion, for $33,000 and pledged $50,000 toward preserving it. Today it houses the Eufaula Historical Museum and is the headquarters of the Eufaula Heritage Association. The beautifully furnished house-museum is now debt free, reports Joel Smith, president of the Heritage Association and editor of the *Eufaula Tribune*.

Although Eufaula is rapidly becoming an industrial and resort city, its economy is still greatly influenced by the agricultural output of the surrounding rural areas. More than 50 landowners in the Eufaula area have developed conservation plans, covering almost 35,000 acres, with the Barbour County Soil and Water Conservation District. According to Ed Grant, district chairman, these farmers have applied more than 275 conservation practices during the last 8 years.

"Planning, cooperation, determination, and action put Eufaula on the move," says John Dismukes, a county commissioner and member of the RC&D steering committee. "The combined preservation of some old historic manmade resources and the development of our natural resources proved to be a winning combination." ♦

The Shorter Mansion (above) was saved from destruction by heritage-conscious citizens. It is now open daily as a museum and is the headquarters of the Eufaula Heritage Association.
Tom Mann (left), Eufaula's professional bass fisherman, displays the product of his talent. Fishing is a major attraction at Lake Eufaula.

Iowa passes erosion-control law

by Wilson T. Moon
State conservationist, SCS
Des Moines, Iowa

Iowa landowners who don't take steps to prevent erosion may face contempt-of-court charges.

A new law—described as the most far-reaching soil conservation law in the country—went into effect on July 1. It requires that landowners, urban and rural, whose soil loss exceeds certain limits employ erosion-control measures. Landowners are to be given time to reduce erosion to an acceptable level.

According to William Greiner, director of the State Department of Soil Conservation, there are not likely to be any test cases until soil-loss limits are established.

A provision that state or federal funds must be available to pay 75 percent of the cost of permanent soil and water conservation practices, such as terraces, may also delay enforcement. But proponents of the law, including Dale Cochran, a member of the Iowa House of Representatives who has pushed for the law since 1965, are enthusiastic and expect to get needed funds.

Another reason backers of the law are confident it will be enforced is the near-unanimous approval it got in the Iowa legislature after being turned down twice in previous years. The bill passed the House 92 to 4 and the Senate 41 to 5.

In signing the bill, Gov. Robert Ray praised it as a strictly nonpartisan act and commended Iowa lawmakers for their concern for the environment. Governor Ray had backed the bill from the beginning.

Farm organizations had strongly opposed original drafts of the bill but did not fight the bill in its final form.

Harold Higgins, farmer and president of the Iowa Association of Soil Conservation District Commissioners, gives a *Wallaces Farmer* poll much of the credit for the unanimous approval of the bill. "Many people think of Iowa farmers as the most conservative people there are," Higgins says, "but in that magazine survey three-fourths of the farmers contacted were in favor of this bill."

Cochran says that the bill came about as a result of the legislature's appointing a 10-member committee to study existing drainage laws and recommend changes. The committee, after holding hearings throughout the state, concluded that (1) existing drainage laws needed to be amended and (2) a new law was needed to coordinate drainage, flood control, and soil erosion problems within the entire area drained by a stream.

The idea of mandatory conserva-

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tion which the committee recommended to the 1969 and 1970 legislatures was strongly opposed. Provisions that were protested most were (1) too little cost-sharing from state and federal governments, (2) tough penalties (a farmer could be jailed immediately, or the district could apply conservation measures and put a lien on the land if the farmer did not pay), and (3) a 1-mill tax levy to administer the program.

The law is called a conservancy district law. It sets up six conservancy districts, which take in the entire state, on a watershed basis to coordinate efforts of drainage districts and soil conservation districts and to help put into effect the comprehensive statewide water-resources plan. Soil conservation districts are required to adopt regulations setting soil-loss limits. Because Iowa cities and towns are included in soil conservation districts, sediment and erosion from urban property and highway construction sites as well as from agricultural land will be subject to district regulations.

Fred Cherry, chairman of the State Soil Conservation Committee, thinks that the law will encourage much more voluntary soil conservation. "I don't expect too many neighbors to bring action against each other," Cherry says.

Anyone whose land is damaged by sediment can file a complaint. This means that the State Conservation Commission, for example, can file complaints to keep state lakes from filling with sediment.

House majority leader Andrew Varley doesn't expect many people to be brought to court either. "But the law does point out that more and more we are realizing everyone has a responsibility to stop erosion," he says.

The law is new, and most backers agree that it is only a start. But it's a move that will materially strengthen Iowa's going conservation program. ♦

(Far left) If erosion from a housing development exceeds the soil conservation district's soil-loss limit, the landowner may be compelled by the courts to apply erosion-control practices on his land. (Left) The objective of Iowa's erosion-control law is to stop erosion by any means; seeding is one means. (Above) Under the new law, if a farmer is forced to build permanent structures such as terraces, 75 percent of the cost must be paid by the government.

Plantation profits from conservation planning

When an old, misused plantation is turned into productive cropland, excellent pastures, a sportsman's paradise, a place for recreation and for lakeshore living—that's good land use.

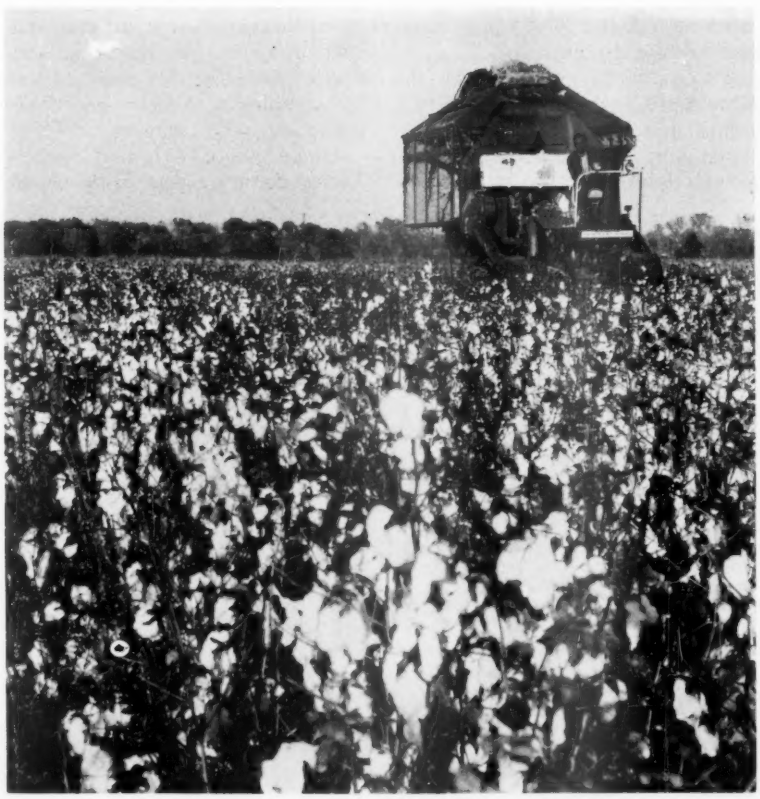
"This land conversion is a success largely because of conservation planning," says George R. Bagley, owner of the 650-acre plantation in Tensas Parish, Louisiana. Bagley is vice-president of the National Association of Conservation Districts.

Bagley is also part owner of 1,650 acres that adjoin his plantation. Of this land, which is controlled by the Lake Bruin Development Corporation, 1,300 acres are in crops and 850 in pasture; about 89 acres have been developed for wildlife, 75 for recreation, 210 for housing, and 23 for an airstrip that serves St. Joseph, 5 miles away.

Bagley started farming his land in the 1930's and immediately had problems. He laid out the farm in square fields—the way it is done in his native Indiana. He soon learned that this method does not work on the rolling, uneven ridges and swales of Mississippi Delta land.

He became a cooperator with the Tensas-Concordia Soil and Water Conservation District and with help from the Soil Conservation Service set out to develop a conservation plan and to rearrange his fields. A soil survey helped explain why cotton, beans, and other crops grew better in some fields than on others. Bagley says he had some oddly shaped fields because fences and field boundaries were determined by soil type. Crops were put on higher, loamy soils and pastures on wet, clayey soils.

Bagley has installed most of the needed conservation practices and a water-management system. Before he plants wheat and Singletary pea cover crops in the fall, he deep-



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plows the land to break up a hardpan that forms 8 to 12 inches below the surface. Cover crops are grazed until March when they are plowed under, and cotton is planted in April and beans in May. Cotton yields are about 2 bales an acre; equipment can work in the cottonfields without bogging.

Pastures produce enough grass on each 3 acres for two animal units. The pastureland is divided into 12 fields, which are grazed by four herds of 450 Hereford cows. Cattle are rotated from pasture to pasture about every 2 weeks to give grasses time to recover. Water is supplied to each field from wells and ponds.

Bagley took over the management of the Lake Bruin Development Corporation early in 1960. Because of high inheritance taxes, crops and pastures did not bring enough profit to meet the high mortgage payments on the land. Soil surveys showed that property on the banks of a 3,000-acre lake would make good housing sites and that septic tanks there would work well. Bagley and his partner, James Reed, decided to develop 6 miles of the lakefront for housing sites. The first lots were sold in 1966. There are now 175 lots plotted, and 160 have been sold. Plans are to develop 60 acres for 120 more lots.

More than 40 houses are already built. A shopping center, marina, and a motel are planned, and an application has been submitted to the Economic Development Administration for a federal grant to build a fine-arts center on 50 acres donated by the Lake Bruin Development Corporation.

To keep soil out of the lake, all of the lots are graded and seeded with grass before they are sold. Drainageways are shaped and sodded for beauty and erosion control.

The 75-acre site for a golf course was selected because the soils there are not suited for crops but are ideal for a golf course. The land is rough and is about 800 feet from the lake. A clubhouse has been built; more than 224 families belong to the club.

Two areas of about 60 acres were developed for wildlife. Browntop-millet is planted in summer, and birds feed on the seeds in fall and winter. Water usually stands on these fields during winter, making them ideal for ducks. Thirteen other wildlife areas—each is 1 acre in size—are located throughout the property. These are fenced and planted with food for dove and quail.

The way George Bagley sees it: good planning and proper land use and treatment are the only way to make high-priced and high-taxed land pay. — GENE WARREN, JR., *public information specialist, SCS, Alexandria, La.* ♦

(Left) Conservation treatment and planning according to soil capability brought this land to peak production. (Above) The soils here are not suitable for crops but are ideal for a golf course.

A Sanitary Landfill Can be a Good Neighbor

by Marvin F. Bureau
Soil scientist, SCS
Wooster, Ohio

Sanitary landfill has become a household word to many Ohioans. Almost daily they learn from news media that another nearby open dump has been closed by the local Department of Health. In light of today's emphasis on pollution and ecological control, traditional, antiquated, and unsanitary forms of refuse disposal are rapidly being replaced by more acceptable methods. Many Ohio communities favor sanitary landfilling over other approved, but more costly methods of solid-waste disposal, such as incineration and composting. In a sanitary landfill, solid refuse is compressed and covered daily with 6 inches or more of compacted earth.

A thorough evaluation of each proposed landfill site is necessary before operational planning can begin. The Soil Conservation Service cooperates with the Ohio Department of Health in making onsite soil evaluations throughout the state. On request, SCS soil scientists and district conservationists recommend practices for erosion control and water disposal at a landfill site.

The Ohio Department of Health rejects some sites because of unsuitable soil material or because of pollution hazards to both surface water and ground water.

Soil properties must be considered because they affect the design and operation of sanitary landfills. Other important factors considered in selecting landfill sites include hauling distance, accessibility, kinds of nearby developments, public acceptance, preserving the quality of the surrounding environment, cost of land, and planned use of the area after it is filled.

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Once a landfill site is acceptable to the Ohio Department of Health, the next step is to prepare an engineering plan. This plan gives the approximate volume and kinds of solid wastes to be disposed of and the exact methods for operating the landfill. It includes contour maps of the site in its present and future condition and details for overcoming potential pollution of ground and surface water.

If the Division of Engineering of the Ohio Department of Health approves the engineering plan, the local board of health issues a license for development and operation. The landfill operates under continuous health department inspection.

Some sites may need a disposal system for runoff from the area, or upland water may have to be diverted around the site. Vegetation barriers or a screen of trees and shrubs may be needed to obscure the operation from public view.

Once filled, most disposal areas can be put to another use, such as athletic fields, parks, playgrounds, parking lots, wildlife areas, a golf course, or some types of farming. Whatever the eventual use, the reclaimed landfill area generally becomes an asset to the community. ♦

Once a landfill, always a landfill? No. This landfill (far left) has been reclaimed and turned into a recreation area for Boy Scouts. Open dumping (center) is unsightly, attracts rats and insects, pollutes water—and it's against the law in many states. The trench method of sanitary landfilling (top) is best adapted to level, open areas. The area to the right of the trench has been filled, and reclaiming has begun. Some strip-mined areas (above) make good sites for sanitary landfills.

Taming a mountain

Have you ever tried to tame a growing mountain, improve its looks, and keep it from catching on fire or running away? Russell Stein has. That's his job.

Stein is a mining engineer for the Jones & Laughlin Steel Company in Fayette County, Pa. The mountain is a pile of mine spoil.

It's not an easy job, Stein will tell you. The pile of mine spoil is more than 100 feet high and covers 125 acres. The material is loose; much of it is very fine and is carried away during a heavy rain. Deep canyonlike gullies wash out easily on the side slopes, giving the pile a desolate look.

Every day 5,000 tons of new waste is added to the pile. This waste comes from the company's plant which processes coal from nearby mines for shipment to the mills in Pittsburgh. The waste, which amounts to about 25 percent of the plant's total output, is delivered to the pile by a mile-long conveyor belt. A stacking system and dozers are used to level off the refuse, creating a huge plateau on top of the pile.

For the past 20 years, the Jones & Laughlin Steel Company has used a series of collection basins and diversions to keep the eroding waste out of the Monongahela River and the nearby community of LaBelle. Runoff is directed into the basins within the pile where it gradually filters through the waste and into the soil.

Large diversions ring the base of the pile and collect the runaway waste material. Periodically, the diversions and basins are cleaned or relocated because of the high rate of sedimentation.

Stein has turned to vegetation as an added measure for protecting the pile from runoff and erosion. He feels that vegetative cover will be more economical and will reduce the possibility of the material igniting. There is no doubt it will improve the pile's appearance.

Stein got started on his vegetative program soon after the steel company became a cooperator of the Fayette County Soil and Water Conservation District. With the help of Riggs Harwell, the SCS district conservationist, he started a series of trial plantings on 6 acres of spoil. More than a dozen different grasses, legumes, and shrubs were tried the first year. Fertilizer and heavy applications of lime were applied because the waste is high in acid and is almost devoid of basic minerals.

During the second year, plantings were tried on 10 acres of spoil. The entire area was limed and fertilized and ditched on the contour. The ditches, which are about 15 inches deep and 20 feet apart, intercept runoff, thus reducing erosion and allowing more water to enter the waste.

Stein and Harwell are planning another series of trial plantings. They are evaluating the earlier plantings to determine which ones show the most promise for vegetating the spoil. So far, black locust, bristly locust, and European Alder look good, but the plantings are much too young for final evaluation.

"Our trial plantings are only a beginning," Stein admits. "But it's a beginning that offers hope for taming this mountain." — CHARLES SLATON, *public information officer, SCS, Harrisburg, Pa.* ♦

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(Above) Diversions at the base of the mine-spoil pile intercept runoff and runaway waste material. (Left) Vegetation not only has improved the appearance of this mine-spoil pile but also has kept the material from running away. The experimental planting in the foreground is black locust.

Fairground bids farewell to erosion

What is a county to do when its fairground is eroding away? Monroe County, Ohio, went to sponsors of the Buckeye Hills Resource Conservation and Development Project for help. Monroe County is one of five southeastern Ohio counties covered by the project.

Because the aim of RC&D projects is town-and-country economic development, the Monroe County Agricultural Society, locally known as the Fair Board, believed it could get RC&D help to solve the serious erosion problem at the 37-acre fairground.

Over the years the fairground had been enlarged by leveling sloping areas and bringing in fill where needed. Runoff dropping off the edge of the flattened areas formed gullies. Land slips were common. The annual cost of filling the gullies, repairing the slips, and regrading roads was estimated at $900.

The SCS district conservationist at Woodsfield, the Monroe County seat, showed the Fair Board how a planned water-disposal and erosion-control system would be nearly maintenance free. And the annual cost of these improvements would be less than the cost of maintenance without the improvements.

SCS helped the Fair Board work out a plan that included grassed waterways, diversions, drop inlets, tile drains, seeding, and improvement of existing vegetation to move runoff safely off the fairground. About $2,400 in RC&D funds were allocated to this project.

The project was completed in 1969, but it was only the beginning. The Monroe County Commissioners and the County Engineer's Department donated material for an improved entrance and roadways at the fairground. They also provided a grader, end-loader, and trucks to help in reshaping the eroded areas, moving fill material, and constructing grassed waterways and diversions. Backhoes provided by the county and Woodsfield were used to install drainage measures.

Flowers, shrubs, and trees were planted to further beautify the area. Sixteen native flowering dogwood trees were given to the fairground beautification program. These trees were planted by the individual board members along the approach to the main building.

An unused part of the grounds is to be converted into a picnic area so more people can enjoy the fairground. A new identification sign has been put up at the main gate. Many of the buildings have been painted, and some have been remodeled inside. Even the concession stands have been painted and improved. The Coulson Building was painted by the 4-H junior leaders of the county.

At the last annual county fair attendance was larger than ever. There were more and better exhibits at the fair than ever before. More people came from greater distances than ever to see the new look and the new fair.

The fairground is located just outside Woodsfield and is used for many activities besides the annual fair. Family reunions, picnics, racehorse training, a county Fourth of July celebration, baseball games, and many meetings are held at the fairground, making it a community asset.—KARL H. REINHARDT, *assistant area conservationist, SCS, Athens, Ohio, and* NEAL C. BEERY, *district conservationist, SCS, Woodsfield, Ohio.* ♦

Grass rescues rail research

Grass seeding and mulching seem unrelated to building a railroad, particularly one having a curve, bank, spiral, and base for high-speed, futuristic, linear-induction powered trains.

Because of soil conditions at the Department of Transportation's High Speed Rail Test Site near Pueblo, Colo., officials foresaw the possibility of a severe erosion problem. They feared that the 2-foot high "reaction rail" between the tracks for powering the experimental trains would act like a snow fence and stop the soil that drifted across the track.

Soon after engineers started surveying the site, John Hamernick, regional landscape architect for the Denver office of the Federal Highway Association, contacted the Turkey Creek Soil Conservation District to get help in combating erosion by establishing grass on soils bared by construction.

The soils on nearly half of the DOT test site are deep, dunelike, fine sandy soils of the Valent series. They are unstable and highly susceptible to wind erosion. The rest of the area has deep, gently undulating, moderately sandy soils of the Vona series and deep, nearly level sandy clay loam soils of the Olney series.

SCS personnel studied soil maps of the area, consulted specialists at the SCS Plant Materials Center in Los Lunas, New Mex., and then tailored seeding, fertilizing, and seedbed recommendations to each kind of soil that the track would cover in its 22.4-mile oval path. In fact, the written recommendations became the contract specifications for treatment of the soils disturbed and bared by construction.

The grass was seeded with a grain drill especially modified for seedings of this type. Only certified seed was used. Native hay was spread over the seeded area and crimped 2 or 3 inches into the soil with a disk-type implement.

The effectiveness of the hay mulch was proved on a day when the prime contractor chose to shut down because winds in excess of 60 miles an hour were causing unusual hazards to workers. "I expected to see that ground swept clean the next morning," said Don Taylor, project engineer. But the crimped-in mulch held and kept the soil in place almost as well as growing plants.

According to Charles Miley, resident engineer on the DOT project, about 1,000 acres will eventually be seeded. The success of the seeding, of course, will depend on the moisture available.—ROY J. LARSEN, *soil scientist, SCS, Pueblo, Colo.* ◆

BLM and SCS continue interagency planning

Cattle and sheep ranchers who operate on both federal and private land should receive more timely and efficient help from federal agencies as a result of a new Soil Conservation Service-Bureau of Land Management agreement.

Boyd L. Rasmussen, director of Interior's Bureau of Land Management, and Kenneth E. Grant, administrator of Agriculture's Soil Conservation Service, announced that they have signed an agreement calling for improved coordination between BLM's grazing allotment planning and SCS's ranch unit planning. The new agreement updates and revises planning procedures for a program of interagency cooperation that began in 1965.

Purpose of the agreement is to give more help to conservation district cooperators in resource management and improvement, reduce procedural details, provide new program-planning guidelines, and place more agency responsibility at the state and local levels.

BLM administers grazing use on more than 170 million acres of public land throughout the western states. The Soil Conservation Service gives technical help to private landowners in planning conservation programs on their land in 3,000 conservation districts across the nation. The agreement makes it possible for the two agencies to coordinate programs in areas of mutual interest. ♦

Soil maps lead to right decisions

Maps showing soil limitations are an invaluable aid in town-and-country planning. Since 1964, Adams County, Colorado, has made extensive use of such maps in making land use decisions.

In 1964, Adams County Commissioners requested help from the West Adams Soil Conservation District in developing interpretative maps showing soil limitations for such uses as light industry, house sites, septic-tank absorption fields, sewage lagoons, roads and streets, gravel and sand, and agriculture.

Under the guidance of an SCS soil scientist, draftsmen in the county planning office prepared nine maps based on the Adams County soil survey. Each map covers one township at a scale of 4 inches to the mile. Seven color interpretive maps were made of each township showing three degrees of soil limitation for seven different land uses.

Damage to houses can be avoided if the builder checks the soils before he builds.

Because the maps are on a plastic mylar base, copies can be made easily and inexpensively, making soil interpretations readily available to anyone needing this kind of information.

Roman V. Bockus, Director of Planning in Adams County, believes that some developers in the county would not have made the mistakes they did if these maps had been available several years ago. He says, "In some areas, badly cracked basements, nonfunctioning septic-tank sewage disposal systems, and roadways needing almost constant repair are a major headache to owners, developers, and planners.—CHARLES DAVIES, *district conservationist (retired), SCS, Brighton, Colo., and* HARRY FUKAYE, *president, West Adams Soil Conservation District.* ♦

SCS serves faraway places

Imagine a country the size of Florida, that looks like western New Mexico, and has the climate of Southern California. That's Tunisia.

Imagine a soil scientist who comes from the state of Washington, has 35 years of experience with the Soil Conservation Service, and speaks some Arabic. That's Sanford (Sandy) Anderson.

Sandy, who retired in May after 7½ years in Algeria and Tunisia, was the "longest abroad" employee in SCS. For the last 5½ years he worked in Tunisia, first on the Oued Marguellil Watershed Project and later on a program to increase the country's wheat production.

Oued Marguellil is an area in central Tunisia that averages less than 12 inches of rain annually, most of which falls in torrential downpours in winter. These cause both floods and soil erosion. More than half of the almost 400,000-acre watershed is potential rangeland, but overuse of natural vegetation makes much of the land vulnerable to severe erosion.

The Oued Marguellil Pilot Watershed Project, begun in 1962, provides both flood control and a conservation plan for the area's cropland and rangeland. The plan calls for extensive application of such land-treatment measures as terraces, diversions, and waterways and the re-establishment of grass and other pasture-improvement measures.

Eighteen ponds have been built to supply local people and their livestock with water, and a 100-acre seed-production center is part of the project.

Twenty-three SCS people worked on the project at different times, but it is now run entirely by Tunisians.

The Oued Marguellil area experienced a 500-year frequency storm in September 1969, and, according to Anderson, most of the structural work in the watershed project held. Many project ponds are located where they can help reduce stream-channel erosion by preventing overfalls from working their way into upland crop areas. Each pond also has a sediment pool to reduce silt damage to productive bottom lands.

Anderson worked 2½ years on the program to increase Tunisia's wheat production. He reports that average wheat production in that country has been around 5 quintals per hectare (7½ bushels per acre). In the past 3 years, some demonstration plots have produced up to 70 quintals of wheat per hectare (103 bushels per acre), and Tunisian farmers working a total of 50,000 hectares of their own land have produced an impressive 17 to 20 quintals per hectare (25 to 30 bushels per acre). The increase, claims Anderson, comes from new varieties, correct amounts of fertilizer, and improved cultivation methods.—CAROLYN JOHNSTON, *Information Division, SCS, Washington, D.C.* ♦

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Review

Hydraulics of Sediment Transport. By Walter Hans Graf. *1971. McGraw-Hill Book Company, New York. 513 pp. $22.50.*

In this textbook Professor Graf has consolidated material from a great many sources, both domestic and foreign, into a convenient reference for the advanced researcher in the field of sediment transport as well as for the specialized engineer or geologist.

Part one summarizes the development of hydraulics. Part two concerns relationships between hydrodynamic forces and noncohesive sediment particles. Part three, which is the heart and major part of the book, discusses the entrainment of sediment into the water of an open channel and further consequences. Conditions for erosion, deposition, and stable channels are considered. One of the nine chapters in this part discusses cohesive-material channels and another, sediment sampling devices. Part four is about sediment transport in closed pipes.

This book will interest mainly design engineers and sedimentation geologists.—John N. Holeman, *geologist, Engineering Division, SCS, Hyattsville, Md.*

The Environmental Destruction of South Florida: A Handbook for Citizens. Edited by William Ross McCluney. *1971. University of Miami Press. 134 pp., 3 maps. Paperback, $1.95.*

Most of the environmental problems described in this graphic case study exist in almost all areas of the United States, but a few are unique to south Florida.

In this handbook are assembled the views of presumably some of the most knowledgeable south Florida conservationists and scientists. These experts offer—in everyday terminology — basic factual information about our environmental problems and specific suggestions for corrective action.

The editor and compiler, Ross McCluney, was actively involved in environmental problem-solving before Earth Day 1970 when the University of Miami, where McCluney is a graduate student in physics, hosted an environmental teach-in to alert the public to the growing threat of massive environmental destruction. The surge of grassroots concern following that Earth Day made the need for a citizen's handbook obvious to McCluney, and this book is the answer to that need.

The Environmental Destruction of South Florida is not just another publication on ecology for scientists or for crusaders—it is for the polluters and the polluted, which means all of us.—P.A.C.

New publications

Fluvial Sediment Concepts, Techniques of Water-Resource Investigations of the United States Geological Survey. By Harold P. Guy. *1970. U.S. Dept. Interior Book 3, Chapter C1. 55 pp., illus.* First of a series concerned with the measurement and recording of information about fluvial sediment and with related environmental data needed to maintain and improve basic sediment knowledge. The concepts in this report involve the physical characteristics of sediment which include aspects relative to weathering, soils, etc.; sediment erosion, transport, and deposition characteristics; geomorphic considerations; economic aspects; and data needs and program objectives to be attained through the use of several kinds of sediment records.

Genetics of Black Walnut. By David T. Funk. *1970. USDA Forest Serv. Res. Paper WO-10. 13 pp., illus.* Gives the sexual and asexual reproduction, genetics and breeding and improvement programs for the black walnut, native to most of the eastern half of the United States and southern Ontario between Lake Huron and Lake Ontario.

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Animal Waste Reuse—Nutritive Value and Potential Problems From Feed Additives, a Review. *1971. USDA Agricultural Research Service, ARS 44-224. 56 pp.* A report of literature on the nutritional value of animal wastes and the potential problems that may occur when compounds other than nutrients are added to animal feeds. Presents six articles by different authors.

Land Use Classification with Simulated Satellite Photography. By Donald J. Belcher, Ernest E. Hardy, and Elmer S. Phillips. *1971. USDA Agr. Inf. Bull. 352. 27 pp., illus.* Discusses how imagery expected from the Earth Resources Technology Satellite (ERTS) was simulated by reducing conventional black and white aerial photographs to the small scales that would result in photographing large areas of the ground at satellite altitude. Small sections of the reduced negatives were then enlarged for land use interpretation tests.

The Principles of Planning Based on Soil Surveys. By Charles E. Kellogg. *1970. USDA Soil Conservation Service. 10 pp.* Outlines briefly six principles that apply specifically to essentially all the planning work carried on with the use of soil surveys by people and their local governments.

Managing Our Environment. Prepared by Agricultural Research Service. *1971. USDA Agr. Inf. Bull. 351. 48 pp., illus. $0.75.* Deals with national priority—managing our environment—and covers some of the major challenges facing scientists and regulatory officials working in agricultural research. Specifically it presents ways agricultural research fights pollution: protecting land, water, and waterways; managing farm wastes; recycling food; processing wastes; and finding alternatives to pesticides.

Effect of Tree Windbreaks and Slat Barriers on Wind Velocity and Crop Yields. By E. J. George. *1971. USDA Agricultural Research Service Production Res. Rpt. 121. 23 pp., illus. $0.25.* Study conducted at Mandan, N. Dak., and in the eastern half of the state during 1959-68. Objectives were to determine (1) how tree windbreaks and barriers of different densities and orientations affect wind velocity, snow distribution, transpiration from crops, evaporation of water from soil, buildup of soil water on cropland, and crop yields; and (2) what procedures might be used to correct ineffective windbreaks.

Selected U.S. Crop Budgets—Yields, Inputs, and Variable Costs. By W. C. McArthur. *1971. USDA Economic Research Serv. ERS 457. 137 pp., illus.* Vol. I, Southeast Region.

Selected U.S. Crop Budgets—Yields, Inputs, and Variable Costs. By Gaylord Worden, Ralph D. Tompkin, Richard A. Benson, William G. Bursch, and Boyd M. Buxton. *1971. USDA Economic Research Serv. ERS 458. 217 pp., illus.* Vol II, North Central Region.

Selected U.S. Crop Budgets—Yields, Inputs, and Variable Costs. By Thomas A. Miller. *1971. USDA Economic Research Serv. ERS 459. 180 pp., illus.* Vol. III, Great Plains Region.

Selected U.S. Crop Budgets—Yields, Inputs, and Variable Costs. By Leroy C. Rudge. *1971. USDA Economic Research Serv. ERS 460. 43 pp., illus.* Vol. IV, Northwest Region.

Selected U.S. Crop Budgets—Yields, Inputs, and Variable Costs. By P. I. Strickland and R. Lynn Harwell. *1971. USDA Economic Research Serv. ERS 461. 184 pp., illus.* Vol. V, South Central Region.

Field Methods for Measurement of Fluvial Sediment, Techniques of Water-Resource Investigations of the United States Geological Survey. By Harold P. Guy and Vernon W. Norman. *1970. U.S. Dept. Interior Book 3, Chapter C2. 59 pp., illus. $0.70.* Describes field methods for the measurement of fluvial sediment and consists of two main sections: Sediment sampling equipment and sediment sampling techniques.

Birds Imported into the United States in 1968. By Richard C. Banks. *1970. U.S. Dept. Interior Special Scientific Rpt. Wildlife 136. 64 pp.* In 1968 more than 490,000 individual birds were reported on forms filed with U.S. Customs. This list gives the number of each species of bird that was imported.

Fertilizer Use and Water Quality. G. Stanford, C. B. England, and A. W. Taylor. *1970. USDA Agricultural Research Service ARS 41-168. 19 pp.* Evaluates the role of nitrogen and phosphorus fertilizers in water pollution and summarizes the research on the complex relations between nutrient inputs and outputs.

Culture and Use of Grain Sorghum. By W. M. Ross and O. J. Webster. *1970. USDA Agr. Hbk. 385. 30 pp., illus. $0.20.* Grain sorghum is a major crop of the Great Plains and the Southwest. It is grown both as a dryland and as an irrigated crop. Superseding AIB 218, *Culture and Utilization of Grain Sorghum*, this publication gives in detail the methods used in producing the crop.

The Potential for Genetic Suppression of Insect Populations by Their Adaptations to Climate. By W. Klassen, J. F. Creech, and R. A. Bell. *1970. USDA Misc. Publ. 1178. 77 pp., illus. $0.60.* Study shows that a population may be suppressed by means of conditional lethal traits, particularly (1) when the population is held in check by partial sterility while conditional lethal genes are introduced, and (2) when the population is held static by conventional means while the conditional lethal genes are introduced.

Outdoor Recreation Research, a Reference Catalog, 1970. *1971. U.S. Dept. Interior, Bureau of Outdoor Recreation No. 4. 122 pp. $1.25.* 427 currently active or recently completed outdoor recreation and related environmental quality research projects listed, described briefly, and grouped into one of three categories —resources, economics, and user studies.

A Forest Atlas of the South. *1969. USDA Forest Service, Southern Forest Expt. Sta. (La.) and Southeastern Forest Expt. Sta. (N.C.). 27 pp., illus.* Maps of resource areas, physical divisions, soils of the South, forest types, distribution of southern pines and hardwoods, proportion of land forested, national and state forests, annual precipitation, growing-season precipitation, potential evapotranspiration, water deficit, runoff and productive aquifers, January and July temperatures, freeze-free period, ice hazard areas, damaging tropical storms, forest insects, fire occurrence rates, and county maps.

Restricting the Use of Phenoxy Herbicides—Costs to Farmers. By Austin S. Fox, Robert P. Jenkins, Paul A. Andrilenas, John T. Holstun, and Ayton L. Klingman. *1970. USDA Economic Res: Serv. and Agr. Res. Serv. Agr. Econ. Rpt. 194. 32 pp.* States that herbicide restriction would increase U.S. farmers' direct costs as much as $290 million, assuming current levels of production, and about 20 million more hours of family labor would be used. Gives net reductions in farm income for many different crops.

Turning Points in Time. *1970. Soil Conservation Soc. of Amer. Proceedings of 25th anniv. meet. August 9-12, Toronto, Ontario. Soil Conserv. Soc. of Amer. 7515 Northeast Ankeny Road, Ankeny, Iowa 50021. 185 pp. $5.* The three sections—Turning Points in Time, Turning Points of Today, and Turning Points of Tomorrow—contain 15 articles and comments by specialists from federal, state, and local governments and from universities and private organizations in the United States and Canada. Seven students from five universities in the United States participated and presented papers in a student symposium.

Nationwide Inventory of Air Pollutant Emissions, 1968. *1970. U.S. Dept. Health, Education, and Welfare, Public Health Serv., Environ. Health Serv., Nat'l Air Pollution Control Admin. Publ. AP-73. 36 pp., illus. $0.30.* Estimates of the 1968 nationwide emissions of five primary air pollutants: carbon monoxide, sulfur oxides, particulates, hydrocarbons, and nitrogen oxides. Emission trends from 1966 through 1968 are included as well as motor vehicle emissions projected to 1990.

Ponds for Water Supply and Recreation. BY THE SOIL CONSERVATION SERVICE. *1971. USDA Agr. Hbk. 387. 55 pp., illus. $0.75.* Outlines the requirements for developing a pond for water for livestock, irrigation, fish production, field and orchard spraying, fire protection, and recreation. Gives instructions for selecting the pond site, checking physical characteristics of the drainage area, estimating storm runoff, and constructing the pond.

Environmental Criteria for Electric Transmission Systems. *1970. USDA and U.S. Dept. of Interior. 52 pp., illus. $0.65.* Gives guidelines for Federal land-managing agencies in designing regulations and enforcing contractual standards of performance for construction and maintenance of transmission systems.

Cost Analysis of Six Water Desalting Processes. BY C. F. CLARK, JOSEPH J. STROBEL, AND E. F. MILLER. *1969. U.S. Dept. of Interior, Office of Saline Water Res. and Develop. Prog. Rpt. 495. 100 pp., illus. $1.*

Equipment for Clearing Brush From Land. *Rev. 1970. USDA Farmers' Bull. 2180. 12 pp., illus.* Supersedes Farmers' Bulletin 1526, *Clearing Land of Brush and Stumps.* Describes some common types of equipment used to clear brush from areas of various sizes.

A Forest Atlas of the Northeast. BY HOWARD W. LULL. *1968. USDA Forest Service, Northeastern Forest Experiment Station (Upper Darby, Pa.). 46 pp., illus.* Description and maps of major forest regions, forest land distribution, physiographic regions, soils of the Northeast, mean annual total precipitation, mean annual total snowfall, average annual number of days with snow cover, mean daily maximum and minimum temperatures for January and July, mean length of freeze-free period, mean annual potential evapotranspiration, mean annual water surplus, density of population, federal and state forest lands, and forest influences.

Range Ecosystem Research, the Challenge of Change. *1970. USDA Agr. Inf. Bull. 346. 26 pp., illus. $0.25.* Range ecosystems are composed of communities of plants and animals in their natural environment. This publication presents a new look at the Nation's rangelands and their importance to all segments of society; outlines the direction Forest Service has chosen to take with rangeland research in that agency and explains the underlying philosophy.

Soil surveys

Mercer County, Pennsylvania. BY DARRELL G. GRICE, ROBERT G. GRUBB, AND ORIN W. JAQUISH. *1971. 73 pp., illus.; maps 3.17 inches to the mile (1:20,000).*

Charles County, South Carolina. BY E. N. MILLER, JR. *1971. 77 pp., illus.; maps 3.17 inches to the mile (1:20,000).* Soils surveyed by B. M. Long, J. E. McDonald, W. M. Steedly, W. M. Stuck, C. B. Ware, T. R. Love, and L. E. Andrew.

Meetings

The **Izaak Walton League's** 49th national convention will take place on July 7-9 in Anaheim, Calif.

A keynote session will cover discussions on ocean resources, a topic built around the convention theme "The Sea Around Us." The panel will include a number of well-known professionals in the marine resources field.

Action is the theme of the 1971-72 program of the **National Federation of Business and Professional Women's Clubs, Inc.** And "Era of Responsibility" continues the commitment of BPW to productive change while providing a great variety of projects from which an individual club can chart its course. Much of this will be presented at the annual meeting of BPW July 25-29 in Cleveland, Ohio.

One of the action programs is for a quality society. "Reducing smog, haze, smoke, and smaze and creating public understanding of the complex pattern of ecology . . ." will be the aim of BPW.

Dates and places

July

7-9, Izaak Walton League of America, Anaheim, Calif.

12-17, International Symposium on Useful Wildlife Shrubs, Logan, Utah.

17-21, American Association of Nurserymen, Dallas, Tex.

18-21, National Association of Counties Research Foundation, Milwaukee, Wis.

25-29, National Association of Business and Professional Women, Cleveland, Ohio.

29-31, Great Plains Conservation Council, Albuquerque, N. Mex.

August

4-6, Community Development Society, Stillwater, Okla.

8-11, National Farm and Power Equipment Dealers Association, Toronto, Canada.

11-13, Future Farmers of America, Kansas City, Mo.

15-18, American Agricultural Economics Association, Carbondale, Ill.

15-18, Soil Conservation Society of America, Columbus, Ohio.

15-19, Conservation Education Association, Ann Arbor, Mich.

15-20, American Society of Agronomy and Soil Science Society of America, New York, N.Y.

29-Sept. 3, American Institute of Biological Sciences, Inc., Ft. Collins, Colo.

29-Sept. 3, Ecological Society of America, Ft. Collins, Colo. ♦

Recon . . .

So a new river basin study is published. What then? Pennsylvania STC Mel Davis decided not to let the Susquehanna study go unnoticed. He held six meetings in 3 days to explain the report to local people. More than 100 people including community leaders attended each session, held in courthouses. Mel's information tools included an advisory to his SCS staff giving hints on making meeting arrangements; a letter of invitation to local leaders; a press release; a full background statement; and a descriptive publication about the river-basin study for handout at the meetings. The result? Thousands of people learned of a major effort to help correct problems of inadequate water supply, stream pollution, poor land use, and shortage of recreation areas in eastern Pennsylvania and parts of New York and Maryland.

Sweet revenge. An Arizona cattle rancher discovered that vacationing campers had pitched their tent on a corner of his property during a 2-week period when he was away on business.

The campers left the area strewn with newspapers, cans, bottles, paper plates and napkins, plastic spoons and forks, cardboard boxes, milk cartons, and comic books.

Poking through the refuse, the rancher found an envelope with the name and address of a man who lived in the East. He wrote a letter, explaining that campers had left some "personal belongings" behind and that he'd be happy to send them if they would pay shipping charges. His offer was accepted with thanks.

The rancher jammed all the litter into a wooden packing crate and shipped it East, express collect. The bill was $33.

Summer dropouts. The city and county of Honolulu has hired 1,272 high school and college students this summer to work in various ecology-related programs.

Theme of the summer project is "Hoolaulea Hoomanu," or "Celebration of Life." Activities range from fieldwork to investigation of various environmentally oriented ordinances and other legislation.

The program is conducted along the guidelines of the Environmental Protection Agency's SPARE (Summer Program for Action to Renew the Environment), which seeks to awaken youth to environmental problems and provide training for careers in environmental service.

Wyoming has joined the growing list of states that have changed the name of Soil and Water Conservation Districts to simply Conservation Districts. Also, the State Soil Conservation Committee was renamed State Conservation Commission. All cities and towns in Wyoming are now included in Conservation Districts.

Sweden's "right of public access to land" allows anyone to walk anywhere in the Swedish countryside, provided he causes no harm to crops, trees, and fences. Although areas around homes are private, forests and meadows are open to everybody—flowers and wild berries are free for the picking. But anybody who damages crops or trees can be prosecuted.

It's happening in New Hampshire. In Piermont, a zoning ordinance based on soil interpretation maps received voter approval by a 110 to 40 margin. The towns of Haverhill and Lyme have asked SCS for help in making soil interpretation maps to be used as a basis for land use regulations. In Woodsville, a bank requires soils information on all applications for house-construction loans.

In Potomac, Maryland, a small group of residents—making up the Potomac Conservation Foundation—have hired an architectural firm to help them control the growth that threatens their town. The Foundation has been pitting itself against increasing pressures for development. So far, Potomac has been relatively unaffected by the development boom. It remains a reminder of the days when suburbs had no beltways or shopping centers.

The Department of Interior has decentralized the administration of the Land and Water Conservation Fund, the largest federal grant-in-aid program for acquiring and developing public park, open space, and recreation lands and waters.

The responsibility for grant-in-aid project review and approval now rests with the six regional offices of Interior's Bureau of Outdoor Recreation. These offices are in Ann Arbor, Atlanta, Denver, Philadelphia, San Francisco, and Seattle.

Grants-in-aid under the Land and Water Conservation Fund can be made only to states, cities, counties, and legal political subdivisions. The federal money pays half the cost of statewide planning projects, land acquisition, and development of facilities for public outdoor recreation.

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From the Administrator:

"Doing our thing" in the planning process

People today attach a lot of importance to "doing your own thing." Many people are still searching for their proper role. But over a period of years, it seems to me that we have put the SCS contribution to the planning process in the proper focus. We do understand "our thing."

The articles in this issue of SOIL CONSERVATION make it clear that even though we don't plan subdivisions, don't locate highways, or draw up urban master plans, we nevertheless are up to our ears in land use planning.

For one thing, SCS has leadership for the National Cooperative Soil Survey, and the soil survey, as the director of at least one regional planning commission has pointed out, "is the logical place to start the planning process."

It is also the logical place to start if you are a builder seeking a site for a housing project, or a school board trying to find a location for a new high school. Every organization with responsibility for community planning needs expert assistance on soils.

We also can provide authoritative information on water management and the control of water runoff. We can help stop soil erosion on construction sites and reduce the velocity of storm runoff. We know a lot about the ways in which water and various types of soil interact, and we are in a position to give planners sound advice on alternative uses of land.

So this is a big part of the soil conservation thing—the ability to supply the rest of the planning team with scientific facts about soil and water and what happens when they get together.

Our contribution to the planning process doesn't end with furnishing facts. District leaders and SCS people also are experts at getting things done, in achieving practical results. If a planning session turns into an "all talk, no action" affair, soil conservation people tend to grow restless and impatient. That's to their credit. A plan that doesn't result in some sort of practical action isn't worth the paper it's written on. District people, in particular, often serve as catalysts in getting local people to stop talking and embark on programs of decisive action. Both the small watershed program and the RC&D program are proof of that.

Finally, I think that the experience of 36 years in some 3,000 conservation districts has taught our people something about the needs and desires of local communities, which should be kept in the forefront of every planning process.

So let's accelerate our actions and do our thing in land use planning and encourage other types of professionals with a contribution to make to do theirs.

Kenneth E. Grant

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